

Claims

1. A drilling apparatus capable of drilling in at least two drilling locations on a drilling surface, said drilling apparatus comprising:

- a. a rig structure including a surface-engaging tool, said rig structure having a rig base;
- b. a drilling pad having a substantially planar rig support surface with at least one drilling location aperture passing therethrough, wherein said pad can be placed on the drilling surface over the desired adjacent drilling locations such that each of said drilling locations coincides with a drilling location aperture, and wherein the rig base rests on said rig support surface;

wherein said rig structure can be positioned on said pad in a first position in alignment with a drilling location aperture such that said surface-engaging tool can pass through said drilling location aperture and access a first drilling location coinciding therewith;

and wherein said rig structure can be moved from said first position to a second position in alignment with a drilling location aperture such that said surface-engaging tool can pass through said drilling location aperture and access said second drilling location coinciding therewith by moving said rig structure horizontally across said rig support surface from said first position to said second position.

2. The drilling apparatus of Claim 1 wherein said first drilling location aperture and said second drilling location aperture are the same aperture.

3. The drilling apparatus of Claim 1 wherein said first drilling location aperture and said second drilling location aperture are different apertures.
4. The drilling apparatus of Claim 1 further comprising a friction-reducing element between said rig base and said rig support surface.
5. The drilling apparatus of Claim 4 wherein said friction-reducing element comprises a friction-reducing surface on a bottom portion of said rig base.
6. The drilling apparatus of Claim 4 wherein said base comprises pontoons having bottom surfaces thereof supported on the rig support surface.
7. The drilling apparatus of Claim 6 wherein said friction-reducing elements comprise a friction-reducing surface on a bottom of said pontoons.
8. The drilling apparatus of Claim 7 wherein said friction-reducing surface comprises a polymer coating.
9. The drilling apparatus of Claim 8 wherein said polymer coating comprises an ultra-high molecular weight (UHMW) polymer.
10. The drilling apparatus of Claim 1 wherein said rig support surface further comprises a friction-reducing layer to reduce the force required to move said rig structure in relation to said rig support surface.
11. The drilling apparatus of Claim 10 wherein said friction-reducing layer is a coating which can be repaired or replaced as necessary.
12. The drilling apparatus of Claim 11 wherein said friction-reducing layer is a polymer coating.

13. The drilling apparatus of Claim 12 wherein said polymer coating comprises an ultra-high molecular weight (UHMW) polymer.
14. The drilling apparatus of Claim 1 wherein more than one drilling location coincides with one drilling location aperture.
15. The drilling apparatus of Claim 1 further comprising a rig structure moving means to facilitate the movement of said rig structure across said rig support surface on said pad.
16. The drilling apparatus of Claim 15 wherein said rig structure moving means comprises at least one hydraulic cylinder, said at least one hydraulic cylinder being removably attached between said rig structure and said pad to allow for a pushing or pulling force to be exerted upon said rig structure rendering a sliding movement of said rig structure on said rig support surface.
17. The drilling apparatus of Claim 16 wherein the number of hydraulic cylinders is one.
18. The drilling apparatus of Claim 16 wherein the number of hydraulic cylinders is more than one.
19. The drilling apparatus of Claim 16 further comprising a plurality of anchor points on said rig support surface to allow for the removable attachment of said at least one hydraulic cylinder to said rig support surface at different points.
20. The drilling apparatus of Claim 19 further comprising a plurality of anchor points on said rig structure to allow for the moveable attachment of said at least one hydraulic cylinder to said rig structure at different points.

21. The drilling apparatus of Claim 15 wherein said rig structure moving means is attached to said pad on said rig support surface.
22. The drilling apparatus of Claim 1 further comprising at least one additional pad having a rig support surface,

wherein said at least one additional pad can be placed on said drilling surface adjacent to and abutting said pad and ,

and wherein said rig support surface of said pad and said rig support surface of said at least one additional pad are substantially in the same plane allowing said rig structure to be moved from said pad to said at least one additional pad by moving said rig structure horizontally.

23. The drilling apparatus of Claim of 22 wherein said at least one additional pad has at least one drilling location aperture passing therethrough, and can be placed on said drilling surface such that said at least one drilling location aperture coincides with at least one additional drilling location.
24. The drilling apparatus of Claim 22 wherein said at least one additional pad has a non-perforated rig support surface.
25. The drilling apparatus of Claim 22 wherein said pad and said at least one additional pad are connected.
26. The drilling apparatus of Claim 22 wherein there are more than one additional pads wherein all the pads abut another pad and said rig structure can be moved to any of the pads.

27. The drilling apparatus of Claim 1 wherein said pad further comprises a plurality of connectable portions, said connectable portions adapted to be connected to form said pad, or disconnected for transport.
28. The drilling apparatus of Claim 1 further comprising at least one removable drilling location aperture cover adapted to cover at least one drilling location aperture.
29. A drilling pad adapter apparatus allowing a rig structure to be movable between at least two adjacent drilling locations on a drilling surface, said apparatus comprising:
 - a. a drilling pad comprising a substantially planar rig support surface with at least one drilling location aperture passing therethrough;
 - b. a rig base adapted for attachment to a bottom of the rig structure;

wherein said pad can be placed on said drilling surface over the desired adjacent drilling locations such that each of said drilling locations coincides with a drilling location aperture,

and wherein the rig structure comprises a surface-engaging tool and the rig structure can be attached to the rig base resting on said pad and positioned in a first position in alignment with a first drilling location aperture such that said surface-engaging tool can pass through said at least one drilling location aperture and access a first drilling location coinciding therewith;

and wherein said rig structure attached to the rig base can be moved from said first position to a second position in alignment with a second drilling location aperture such that said surface-engaging tool can pass through a drilling location aperture and access a second drilling location coinciding therewith, by moving

said rig structure attached to the rig base horizontally across said rig support surface from said first position to said second position.

30. The apparatus of Claim 29 wherein said rig support surface further comprises a friction-reducing layer to reduce the force required to move said rig structure in relation to said rig support surface.
31. The apparatus of Claim 30 wherein said friction-reducing layer comprises a coating which can be repaired or replaced as necessary.
32. The apparatus of Claim 31 wherein said friction-reducing layer comprises a polymer coating.
33. The apparatus of Claim 32 wherein said friction-reducing layer comprises an ultra-high molecular weight polymer.
34. The apparatus of Claim 29 wherein more than one drilling location coincides with one drilling location aperture.
35. The apparatus of Claim 29 wherein the rig base comprises a plurality of pontoons adapted for attachment to a bottom of said rig structure.
36. The apparatus of Claim 35 wherein the pontoons comprise a polymer coated friction reducing bottom surface adapted to rest on the rig support surface.
37. A method of moving a rig structure on a drilling surface between adjacent drilling locations, said method comprising the steps of:
 - a. providing a drilling pad having a substantially planar rig support surface with at least one drilling location aperture passing therethrough, wherein said drilling pad is placed on said drilling surface over desired adjacent

drilling locations such that each desired drilling location coincides with a drilling location aperture;

- b. placing a rig structure on said rig support surface, said rig structure including a surface-engaging tool;
- c. moving said rig structure horizontally across said rig support surface until said rig structure is aligned with a selected drilling location aperture coinciding with a desired drilling location such that the surface-engaging tool can access the desired drilling location through said selected drilling location aperture.

38. The method of Claim 37 further comprising placing at least one additional drilling pad adjacent and abutting said drilling pad, said at least one additional drilling pad having an approximately planar rig support surface with at least one drilling location aperture passing therethrough, wherein said at least one additional drilling pad is placed on said drilling surface such that said rig support surface of said at least one additional pad and said rig support surface of said drilling pad are substantially in the same plane, and wherein the rig structure is moved horizontally from said rig support surface of said drilling pad to said rig support surface of said at least one additional pad to align the surface-engaging tool with additional drilling locations through at least one additional drilling location in the additional drilling pad.

39. The method of Claim 38 wherein the rig structure is mounted on a rig base comprising a friction-reduced surface on a bottom thereof to facilitate horizontal movement of the rig structure across said rig support surface.